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Program Library Karlsruhe

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Product Information

AS 488/TM

Var. **M02.03** Issue: May, 2003

Descriptors

TELEPERM M , AS 488/TM , Software variant M , UPGRADE , UPDATE

Summary

The present Product Information relates to the System Software Package:

Name	Variant	Issue	Product no. (MLFB)
AS 488/TM	M	02.03	6DS2 410-0XX00-0XA0 6DS2 410-0XX00-0XB0
AS 488/TM upgrade / update	M	02.03 01.09	6DS2 410-0XX00-0XC2

Description:

Ergänzende Systemdoku.	AS 488/TM	German	C79000-G8000-C700
Supplem. System Docu.	AS 488/TM	English	C79000-G8076-C700

This manuals have to be ordered seperate if required.

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1 Scope

The product information for the system software M02.02/M01.08 remains valid.
The following information represents a supplement.

The delivery consists of:

6DS2 410-0XX00-0XA0 6DS2 410-0XX00-0XB0	6DS2 410-0XX00-0XC2 (Upgrade / Update)
AS 488/TM Memory Card	Diskette 3,5" with AS 488/TM software
Diskette 3,5" with tools for installation	Diskette 3,5" with tools for installation
Diskette 3,5" with software for Bus Operating Console	Diskette 3,5" with software for Bus Operating Console
Software contract and registration card	Software contract
Product Information	Product Information

Note on software protection:

The memory card must be considered as part of the CPU. If the memory card is removed during current operation, and if the AS 488/TM enters STOP as a result of the software protection, all modifications to the configuration are lost which have been made in the meantime and which have not been saved, as well as all modified inputs which have been made since the last save operation; I/O modules may be reset to the basic status.

Note to the Diskette IBS-Tools + Hinweise (Commissioning Tools + Notes):

Because of space the data on the IBS tool diskette is existing now as a self-extracting exe file. For extracting please start the file IBS_DISK.EXE! With this the following directory structure is created on your PC / programming device:

...\IBS_DISK.M2\ASBEDIEN	ASBEDIEN V1.09
...\IBS_DISK.M2\ASBEDIEN.NT	ASBEDIEN V2.01 for Windows NT
...\IBS_DISK.M2\DOCU	Supplementary Documentation (see chapter 1.1)
...\IBS_DISK.M2\DOKU	Supplementary Documentation in German
...\IBS_DISK.M2\PROD_INF	this Product Information
...\IBS_DISK.M2\PROGRAF	AS system file for PROGRAF AS+ (see chapter 1.2)

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1.1 Supplementary Documentation

In addition to the tools required for startup of your AS 488/TM, the commissioning diskette contains all current information which may help you configuring your AS 488/TM. This information which may be useful when starting up is found in this product information and in the following files:

DIODEF_E.pdf	Description of the pin allocations for the DIO interface module (for cabinet status signals, such as door contact, fan, etc.)
BUSINI_E.pdf	Configuration for operating your AS 488/TM on the CS 275 or PROFIBUS-TM system bus
PERPRO_E.pdf	Configuring the Teleperm M I/O peripherals *(new: Notes for 6DS1333)*
DP_PRO_E.pdf	Configuring the PROFIBUS-DP peripheral

The INI files that need modifying for the parameter settings can be found on the AS 488/TM memory card or the upgrade/update diskette.

ASBEDI_E.pdf	User description for the Commissioning Terminal (IBS terminal) (in ASBEDIEN or ASBEDIEN.NT directory)
DP_BST_E.pdf	Description of the standard DP driver blocks
IP262_E.pdf	Description of the standard driver blocks for IP262

Please print out these document files and add them to your AS 488/TM documents. Failure to observe the information provided can result in a serious malfunction of the installation.
If you do not have the corresponding Windows installation on your PC, your local Siemens representative will be pleased to help you.

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1.2 AS System File for PROGRAF AS+

Your commisioning diskette contains a directory PROGRAF after extracting. This contains the system file AS.SYS required for PROGRAF AS+.

Copy the file AS.SYS into your PROGRAF PC into the directory

drv:\PROGRAF\USER\

The system file of the AS 488/TM automation system is then known to PROGRAF AS+. Carry out your PROGRAF AS configuring in the usual manner.

The following version M02.03 contains an update of the system SW file AS.SYS, which has the following extensions:

* Driver blocks DP4E and DP4A for PROFIBUS-DP (included since M02.01)
* Driver block DPCH for ET200M channel diagnosis (see chapter 4.2)

The new AS.SYS file is necessary so that these new standard function blocks are known in PROGRAF AS+, and can be re-compiled or defined.

Note: PROGRAF AS+/NT V4.02 already includes the current file AS.SYS.

Note:

From PROGRAF AS+ V3.00 onwards, the AS commands FORM, LA, AR, DI and DEL are also allowed for online structuring.
After "LA,name;" PROGRAF AS+ terminates the coupling to AS 488/TM (message "BUS STRUCTURING ABORTED"). The coupling must be re-established after the loading and reset procedure is complete (new ANMS).

Caution: Under no circumstances should PROGRAF AS+ be stopped while the AS is being reset, as this causes the bus structuring in the AS to remain active.
If it should happen nonetheless, the user of PROGRAF AS+ should logon on the same AS.

1.3 Master Type File for COM ET200 / COM PROFIBUS

In the DOCU folder on the IBS tool diskette, there are two files for the ET200 configuration tool COM ET200 or COM PROFIBUS.
The master type-file ‘SI8050AX.2MH’ must be copied to the MASTERS directory of the installed COM PROFIBUS. Its contents specify the AS 488/TM as the host system and the module card IF964 as the DP master. The bitmap file ‘AS488TM.BMP’ must be copied into the BITMAPS directory. Once COM PROFIBUS is started, the ‘Read in type files’ menu item or the ‘Read in GSD files’ menu item from within the ‘file’ menu need be activated only once (see also DP_PRO_E.pdf).

Note: In the case of COM PROFIBUS, these files are already supplied from V3.1 onwards.

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2 Commissioning

The Memory Card contains the entire system software for AS 488/TM. It responds with the version ID M02.03 .

To perform an upgrade or update from diskette, an AS 488/TM memory card must be available.

The upgrade procedure is performed offline with a PC or a programming device having a compatible MC interface (e.g. PG740).

The update procedure is performed either from the IBS terminal (online) or from a programming device having a compatible MC interface (e.g. PG740).

A description of the upgrade procedure is provided under heading 2.2 in this document, of the update procedure under heading 2.3 .

Caution: The file RM3_PC1.SYS on the memory card must **never** be deleted or overwritten, as this would mean that the memory card would no longer be bootable!

If this happens nevertheless, the memory card can be restored on a programming device with the help of the upgrade diskette (see chapter 2.2.1).

Notes:

The V.24 serial interfaces of the AS 488/TM and the PCs are non-isolated. With a distance of more than 10m between the earthable point of the AS and the earthable point of the PC's protective conductor an electrical isolation of the interface has to be planned.

Further electronic switches for multiplication of the PC's serial interfaces are not suitable for the commissioning terminal because of the interruption of telegrams at any point. We recommend the use of the integrated software switch for up to four AS interfaces.

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2.1 Startup by Commissioning Terminal

The extracted IBS tool diskette contains your local tool in the directory ASBEDIEN. Install this on your PC to be used for commissioning of the AS 488/TM according to the installation instructions in the document file ASBEDI_E.pdf in the directory ASBEDIEN, and connect your PC to the serial commissioning interface of your AS 488/TM via a serial interface.
For operation under Windows 3.1, a PIF file is delivered with the software. This contains the following settings: run in full screen mode, exclusive foreground execution, foreground priority very high.
For operation under Windows 95, the following setting should be specified: idle time activity very low; no screen saver.

Alternatively the new NT version can be used (see chapter 4.2).

Using your "Commissioning terminal" installed in this manner and the commands of the ASBEDIEN input program you can operate and monitor your AS 488/TM for install and diagnostic like an AS 235 and also access all data on the memory card inserted in the AS 488/TM.

Read the parameter files which have to be processed to enable parameterization from the memory card into a file on your PC using the command "COPY_PC ...". You can modify this file on your PC according to your system configuration using the ASCII editors which can be executed under DOS, and then write them back onto your memory card using the ASBEDIEN command "COPY_TM ...".

Note:

Before starting the UPGRADE/UPDATE activities, please ensure that a current backup of the customer's system and any files that are to be modified exists. This will allow the previous software version to be restored in the even of unforeseen circumstances. The files on the memory card are not write protected, so care should be taken when accessing the memory card.
To back up the files from the memory card to your archive, use the ASBEDIEN command "COPY_PC ...".

2.1.1 Upgrade / Update Data

The data for the upgrade/update procedure is existing on the upgrade diskette as self-extracting exe file. For extracting please start the file UPGRADE.EXE! If the pre-adjusted path is kept, the following directory structure is created on your PC / programming device:

C:\UPGRADE	Upgrade batch
C:\UPGRADE\AS_SW.203	AS system software M02.03
C:\UPGRADE\CP5412	Files for operating the system bus with CP5412
C:\UPGRADE\INI	Initialization files for restoring
C:\UPGRADE\RMOS32	Programs for formatting procedure
C:\UPGRADE\Update_M.109	Data for update to M01.09

If a different path as C:\ has been selected while extracting, the environment variable UP_DRIVE has to be changed in UPGRADE.BAT.

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2.2 Procedure for Upgrade to M02.03 with Programming Device PG740

Stop your AS running (e.g. with STO) and then switch the AS off before pulling the memory card!

For the upgrade, insert the memory card into the MEM-CARD slot of the PG740. Now start the batch UPGRADE.BAT (if applicable, information on the memory card drive, default setting is E:) resp. the corresponding link.

Syntax: UPGRADE or UPGRADE E:

This batch file
- creates a directory C:\UPGRADE.203 (for this, at least 2 to 8 MB must be free on drive C, depending on the size of the user software).
- copies all files from memory card into the directory C:\UPGRADE.203.
- deletes the RMOS system file, as this must never be copied to the MC.
- deletes all BAK files.
- copies the files from directory C:\UPGRADE\AS_SW.203 into the directory C:\ UPGRADE.203 (the system files to be upgraded are then overwritten).
- copies the file STARTER.INI from the directory C:\UPGRADE\INI if this no longer exists.
- reformats the memory card and sets up the RMOS system.
- copies all files from the directory C:\UPGRADE.203 to the memory card

Now perform the following two steps:
1) Put the upgraded memory card in the allocated AS 488/TM and initiate a reboot of the AS (power on).
2) Install the new terminal program ASBEDIEN V1.09 or V2.01 to your PC from the diskette (IBS tools) included with your delivery.

To check the update procedure, start the new ASBEDIEN and select the AS status screen (BT,STAT:@;). In addition to the start-up message, the system version (M02.03) is displayed.

Notes:

Subdirectories on the Memory Card will not be copied. These have to be saved to PC/ Programming device bevor starting the upgrade procedure.

The directory C:\UPGRADE.203 is not deleted. This means that, if an error should occur during the upgrade process, the process can be repeated.

Attention: If more than one AS 488/TM memory cards are upgraded the directory must either be deleted or renamed between the individual upgrade processes.

The directory can also be used as a backup copy of the entire AS software (system and user software).
This means that repairs can be carried out on memory cards with defective software (create directory UPGRADE.203, copy backed up file to it and start the batch file).

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2.2.1 Restoring a Memory Card

This restore is necessary if the memory card is no longer bootable on an AS 488/TM (if it has been deleted with the SIMATIC Manager for example).

The procedure corresponds to an upgrade (see chapter 2.2).

Special features:

- Attempting to copy the old files from the memory card to the programming device, with a faulty (empty) memory card appears the error message:

  Not ready when reading from drive E:
  Ignore, retry, error ?

  This message has to be acknowledged with 'i'. After that the MC will be formatted.

- Afterwards some INI files have to be copied from the directory C:\UPGRADE\INI to the memory card and modified specifically for the user:

`AS_KOM.INI`	settings for the system bus
`DP1.INI`	parameters for the 1st DP thread
`DP2.INI`	parameters for the 2nd DP thread
`L2AMPRO.INI`	parameters for the system bus PROFIBUS-TM
`STARTER.INI`	starting parameters (poss. enter add-ons)

- Using a CP5412 for the system bus PROFIBUS-TM, you have to copy the files DOS_CONF.DAT and FW5412 from the directory C:\UPGRADE\CP5412 to the memory card instead of the file L2AMPRO.INI.

If the display of the AS 488/TM serial number (48xxxx) in BT,STAT:@; is faulty, please contact the TELEPERM M hotline (phone +49 180 5050 222)!

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2.3 Procedure for Update M01.08 (resp. M01.07/06/05/04) to M01.09

2.3.1 Update by Commissioning Terminal

You will find the files needed for an update on the UPGRADE/UPDATE diskette too. Please copy all files from the directory C:\UPGRADE\AS_SW.203 (without sub-directory M02.03) and from the directory C:\UPGRADE\UPDATE_M.109 to the directory 'C:\ASBEDIEN' on your Commissioning Terminal PC or into the current working directory (e.g. C:\TEMP is specified in ASBEDIEN.PIF).
On the Commissioning Terminal PC connected to the AS 488/TM, start the program ASBEDIEN.exe (via ASBEDIEN.PIF under Windows 3.11, so that the program runs in full screen mode and without a screen saver).
Now, in command mode, copy the files previously backed up to the PC to the memory card in the AS in the following sequence:

<ESC>COPY_TM IBS_BEDI.386 resp. <ESC>COPY_TM C:\ASBEDIEN\IBS_BEDI.386
<ESC>COPY_TM STARTER.386 resp. <ESC>COPY_TM C:\TEMP\STARTER.386
<ESC>COPY_TM BEDIEN.386 ...
<ESC>COPY_TM BUSTASK.386
<ESC>COPY_TM EATASK.386
<ESC>COPY_TM LA_AR.386
<ESC>COPY_TM EMULATOR.EXE
<ESC>COPY_TM FUNC.EXE
<ESC>COPY_TM C_EAM.EXE
<ESC>COPY_TM AR_DG.EXE
<ESC>COPY_TM RMOS.INI
<ESC>COPY_TM M7_235AR.SYS
<ESC>COPY_TM VERSION.TXT
<ESC>COPY_TM DP_TREIB.NL
<ESC>COPY_TM IP262.NL
<ESC>COPY_TM FENS.NL
<ESC>COPY_TM NAS_DIAG.NL

If necessary, the following files (in directory A:\INI) should be modified in accordance with the new configuration guidelines.

AS_KOM.INI	settings for non-redundant operation of the CS 275 bus
DP1.INI	parameters for pull&plug, diagnosis and ODIS
DP2.INI	parameters for 2nd DP line
L2AMPRO.INI	parameters for system bus PROFIBUS-TM

After a successful transfer, exit ASBEDIEN (with Alt-X).
Now perform the following two steps:
1) Initiate a reboot of the AS 488/TM (reset or off/on)
2) Install the new terminal program ASBEDIEN V1.09 or V2.01 to your PC from the diskette (IBS tools) included with your delivery.

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To check the update procedure, start the new ASBEDIEN and select the AS status screen (BT,STAT:@;). In addition to the start-up message, the system version (M01.09) is displayed.

Note: If there is already a version M02.02 on the memory card, you can use the files from directory C:\UPGRADE\AS_SW.203\M02.03 instead of the files from C:\UPGRADE\Update_M.109 for the online update (additionally to the files from C:\UPGRADE\AS_SW.203). From this results a version M02.03!

Attention: The data transfer was only successful if the command COPY_TM ends without error messages, and without any manual intervention (e.g. termination with ESC). In the case of errors, the copy procedure must be repeated.

If problems occur during the data transfer (frequent terminations), we recommend the following procedure:

- If the first file (IBS_BEDI.386) was transferred without errors, the AS can be rebooted with the new emergency utility disk (press MRES during switch-on). Together with the new ASBEDIEN V1.09 or V2.01, an error free transfer can be expected.
- Before the next RESET, the files IBS_BEDI.386 and STARTER.386 must be successfully transferred.

2.3.2 Update by Programming Device PG740

Before starting the UPDATE activities (pulling the memory card), please ensure that a current backup of the customer's system and any files that are to be modified exists. This will allow the previous software version to be restored in the even of unforeseen circumstances.

Stop your AS running (e.g. with STO) and then switch the AS off before pulling the memory card!

Copy the files listed under 2.3.1 from the upgrade/update directories into a new directory having the 'name' of your PG740.

For the update, insert the memory card into the MEM-CARD slot of the PG740. Now copy all files from the directory 'name' onto the memory card (either using the file manager or explorer, or using a DOS box):

COPY *name**.* E: /y

Now perform the following two steps:

1) Plug the upgraded memory card of the AS back into the allocated AS 488/TM and initiate a reboot of the AS 488/TM (power on).
2) Install the new terminal program ASBEDIEN V1.09 to your PC from the second diskette (IBS tools) included with your delivery.

To check the update procedure, start the new ASBEDIEN and select the AS status screen (BT,STAT:@;). In addition to the start-up message, the system version (M01.09) is displayed.

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2.4 Installation of the Reloadable DP Driver Blocks (DPAE, DPAA, DPBE, DPBA)

In addition to the execution system and the standard blocks of the AS 488/TM, your memory card contains a so-called reloadable file with the optimized driver blocks for the PROFIBUS-DP I/O bus. These blocks are not present in the system data area of the AS, and are thus not activated automatically. You can load these blocks into your user memory and activate them.
To do this, install your "Commissioning terminal" and transfer the blocks from your memory card to the user memory of your AS using the operation "LA:DP_TREIB.NL;". The loaded blocks must then be parameterized to the type numbers provided in their application, and activated. You activate the parameter settings in the AS input mode using the input instruction "BT,DP:@;".
Set the desired type numbers of the DP blocks in the parameterization display using the parameters 1, 3, 5 and 7. If this blocks already are existing in the AS, the existing type numbers were accepted. Your parameter settings are accepted using the parameterization input "P,9,1;", and the blocks are stored in the user memory of your AS. The activation procedure can be previously aborted using "P,11,1;". The reloaded file is then no longer present in your AS. However, you can carry out the installation procedure from the beginning.
If you already have installed DP driver blocks and you want to update your system software, you have to update the algorithm of the DP driver blocks!
After successful activation, the user structure and the driver blocks must be re-archived to the memory card, otherwise they will be lost during the next boot procedure.

Notes: Subsequent installation of DP_TREIB.NL is not necessary when upgrading/ updating M01.08 resp. M02.02 to M02.03/M01.09 .

The data structures of the DP driver for CP581TM (in AS230/235) and AS 488/TM are identically, but the program algorithms have to be exchanged. With transfering of old user structures to AS 488/TM, following steps have to be done:

- Install matching driver programs: "BT,DP:@;" (see above).
- Input again the parameters BGNR and BADR in all block instancies, even if there value doesn't change (the check has to be run through).

Note: DPAE driver and analogue input modules with NAMUR range of values for wire breakage

The DPAE driver does not know the NAMUR range of values for wire breakage (e.g. AE module 6ES7 331–7RD0). However, with correct configuration, the AE modules can be made to return the S7 standard value, 7FFF (hex), if a wire does actually break, this is then interpreted by the DPAE driver as a wire breakage: in order to do this, the release of the wire breakage diagnosis should be parameterised using COM PROFIBUS (further information can be found in the S7 manual 'Ex-peripheral modules', which can be ordered quoting reference no. C7900-G7076-C150).

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2.5 Installation of the Reloadable IP262 Driver Blocks (RIP, KRIP)

In addition to the execution system and the standard blocks of the AS 488/TM, your memory card contains a so-called reloadable file with the optimized driver blocks for the controller module IP262. These blocks are not present in the system data area of the AS, and are thus not activated automatically. You can load these blocks into your user memory and activate them.
To do this, install your "Commissioning terminal" and transfer the blocks from your memory card to the user memory of your AS using the ASBEDIEN command "LA:IP262.NL;". The loaded blocks must then be parameterized to the type numbers provided in their application, and activated. You activate the parameter settings in the AS input mode using the input instruction "BT,IP:@;".
Set the desired type numbers of the driver blocks in the parameterization display using the parameters 1 und 3. If this blocks already are existing in the AS, the existing type numbers were accepted. Your parameter settings are accepted using the parameterization input "P,5,1;", and the blocks are stored in the user memory of your AS. The activation procedure can be previously aborted using "P,7,1;". The reloaded file is then no longer present in your AS. However, you can carry out the installation procedure from the beginning.
After successful activation, the user structure and the driver blocks must be re-archived to the memory card, otherwise they will be lost during the next boot procedure.

Notes: Subsequent installation of IP262.NL is not necessary when upgrading/updating M01.08 resp. M02.02 to M02.03/M01.09 .

Up from M02.01/M01.07 a RESTART block REST.@IP is created during unpacking the IP262 driver blocks RIP/KRIP. This causes the decompilation in PROGRAF AS+ to be cancelled with the error message 'Illegal character in module name REST.@IP'.

Remedy: Rename the block REST.@IP with SYST.WART to REST.IP .

Corrected in PROGRAF AS+/NT from version V4.01.01.

2.6 Extension Software Packages for AS 488/TM

PLC/PLC Link:

The version V2.00 of PROFIBUS-PLC/PLC can further be used unchanged (order no. 6DS5 124-1AA).

SIWA block:

The version V1.02 of the driver for SIWAREX M can further be used unchanged (order no. 6DS5 470-1AD).

PROFIBUS-PA Link:

The special version M02.00.01 delivered with this software package has been included in the standard system software M02.01, i.e. the modules from the directory \M02_00.01 on the diskette "Linking PROFIBUS-PA to AS x88/TM" must no longer be copied on the memory card with M02.03/02/01 or M01.09/08/07 !
The version V1.00 of the file PA_TREIB.NL delivered with this software package can further be used unchanged (Order no. 6DS5 130-8AA or –8AB).

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3 Removed Errors

F: Function concerned
A: Appearance
M: Modification

- F: Configuring via bus from PROGRAF AS+ V3, from PROGRAF AS+/NT V4.00 or from AS 235
  A: When calling a short STEP or TML module in NEMO, this is immediatelly finished with the message 'Ausgabeende ohne Prüfung (end without check)'. With this no changes are possible and also no test mode with STEP is available.
  This error doesn't appear with ASBEDIEN or PROGRAF AS+/NT V4.01 .
  M: Login for bus configuration corrected.

- F: END SEQUENCE in TML modules
  A: If a GA cell is used as step counter, it doesn't count with whole numbers but for example 0.5, 1.5, 2.5, ... (the function of the SEQUENCE instruction is not affected by this).
  M: Processing of the TML instruction END SEQUENCE corrected.

- F: Writing parameters into GA/GB data blocks
  (from the CFC Online Test in PROGRAF AS+)
  A: If elements of a global data block (GA, GB, GM, ...) are written within the online test, and this data block is defined larger in the CFC than in the AS 488/TM, the last elements are written beyond the block limit, i.e. the next block header is overwritten.
  M: Checking of the block limits corrected.

  Note: All three errors described above have been removed already with the correction version M02.12b.

- F: Invalid analog values
  A: If an analog value contains an invalid number, this is displayed as "`**********#`" in AS 235. In AS 488/TM "`0.0000 #`" is displayed, and the system software gets into an endless loop when processing this value.
  M: The display 0.0 is correct; standardization of the analog value corrected.

- F: KS block
  A: If a sequence cascade was filed in active state, the error message KS.xxxx S304 appears after loading or RSOF.
  M: KS.PROG corrected.

- F: S5KS block
  A: If a non-standardized zero in S5 or S7 floating point format is transmitted with S5KS (PROFIBUS-AG/AG or serial link), a very large number is generated from it.
  M: Standardization corrected.

- F: SYST.WART: Configuring the DP peripherals
  A: The real permitted station number 2 is rejected.
  M: Also station no. 2 is accepted now.

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- F: NEMO compiler: FO command
  A: After formatting a TML module with FO, sporadically an address setting is displayed wrong, though it is processed correctly.
  M: FO command corrected.

- F: ASBEDIEN/NT
  A: When using the NT operating console for a longer time, the reaction time for operations becomes larger.
  M: Internal processing corrected.

- F: ASBEDIEN and ASBEDIEN/NT: AR_PC
  A: An already existing target file will be overwritten without checkback.
  M: Question Yes/No before overwriting.

- F: Operation via bus blocked by PBT key switch
  A: In ASBEDIEN the function of the PBT (process communication keyboard) authorization key switch is simulated by the SCHLn command, i.e. with this the local operating console can be locked. But in contrast to AS 230/235 this operating lock affects at AS 488/TM also some operations via the bus configuring console (DI, AR, LA, DEL and FORM).
  M: This PBT operating lock now applies only to the local operating console, but no longer to the configuration via system bus.

3.1 General Note

Within the state view (BT,STAT:@;) the state of bus A and bus B is shown for the system bus CS 275 or PROFIBUS-TM. With redundant CS 275 bus this state corresponds to the state of redundancy; the state values AKTIV (active), PASSIV (passive) or STOER (fault) may appear at both busses. With not-redundant CS 275 bus or with PROFIBUS-TM the bus B can never take the state AKTIV, but only PASSIV or STOER; both state values show that bus B is not existing.
If the AS 488/TM at system bus PROFIBUS-TM is coupled to the CS 275 bus via a Bridge CS-L2, the bus state values within the state view represent the bus state of the CS 275 bus, as soon as a redundancy message has been received by the AS 488/TM. With not-redundant CS 275 the interpretation above (PASSIV or STOER) applies for bus B as well.

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4 Extended Functions

4.1 General Extensions

F: Function concerned
A: Appearance
E: Extension

- F: SYST.WART: 'Programmkopie verwalten (Managing a program copy)'
  A: Up from M02.01/M01.07 the previous activated copy is activated again after RSOF, and also displayed like this within the SYST.WART function 'Managing a program copy'.
  E: But for being able to cancel a faulty copy, now the original is activated after RSOF / warm restart, and this state is also displayed in SYST.WART correctly.

- F: Reset reaction of the TELEPERM M I/O peripherals
  A: Up to now the TPM 478 I/O interface module keeps the TM I/O modules in the current I/O state also during STOP state of the AS 488/TM.
  E: In all operating states in which the AS 488/TM detects and sets the STOP state (e.g. after pulling the memory card), a reset signal will be given now to the TM I/O peripherals.
  Dependent on the ARS jumper (on special I/O modules) their outputs will then be set to the initial state.

4.2 DPCH: Channel Diagnosis for ET200M

The complex handling with trouble indication for ET200M in AS 488/TM has been simplified by a new driver block DPCH, and extended by an open circuit indication.

The DP driver block DPCH records the diagnostic messages of channel faults for max 8 channels of an ET200M module at the DP thread of AS 488/TM, and displays them at its output bar. With that both a group bit and a byte with channel-specific faults (diagnostic byte) are shown for each channel.

The DPCH block is part of the system software, i.e. it has not to be reloaded via the file DP_TREIB.NL .

The detailed block description is included in the user documentation DP_BST_E.pdf within the DOCU directory at the IBS-Tools Disk.

Note: Please notice also chapter 1.2 of this product information.

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4.3 Bus Operating Console BUS_BEDI_E V2.11

Since version M02.02 the bus operating console with the new functions colored picture transmission and PBT (process operating console) function keys is delivered as replacement for a local operating console with screen, configuration and process operating keyboard (version 2.10).

The programm for the bus operating console is delivered as self-extracting file on a separate diskette in case no PROGRAF AS+/NT is available.
Installation: A directory BUS_BEDI is extracted by starting the file BUSBEDI.EXE. From this you have to use the files BUS_BEDI_E.EXE and BUS_BEDI.INI. The installation and configuration procedure (user-specific settings in the BUS_BEDI.INI file) is decribed in the user manual BUS_BEDI_E.PDF in detail.

From some users came the demand, that several applications should be able to access the bus interface simultaneously (e.g. PROGRAF AS+/NT and PCS 7/TM-OS).
With this, the process can be monitored with WinCC as well as values within the AS can be changed in the CFC online test, at the same time from one PC.

This is possible now, if version 4.02 of PROGRAF AS+/NT and version 3.0 of PCS 7/TM-OS are used.

Both applications use the communication service 'TMSS', which does writing and reading the bus interface via the NAT-NPCI driver (resp. SIMATIC NET), and distributes the data to the registered applications.

The installation of this 'TMSS' service is described detailed in the document TM_Server_en.pdf (within the DOK directory on the CDs of PCS 7/TM-OS and PROGRAF AS+/NT).

The new version 2.11 of the bus operating console delivered with AS 488/TM M02.03, works also with the 'TMSS' communication service, and can therefore be used parallel to the both other applications (also several times).

Note:

As the installation programm for the 'TMSS' communication service can no longer be delivered on disk, the disk 'Busbedienplatz' (Bus Operating Console) furthermore contains the previous version 2.10 in the BUS_BEDI directory, which still accesses the driver directly.

In the BUS_BEDI.TMS directory there is the new version 2.11, which can only be used, if already a software package PCS 7/TM-OS V3.0 or PROGRAF AS+/NT V4.02 has been installed on the same PC, as only then the 'TMSS' communication service is installed.

The INI file and the documentation BUS_BEDI_E.PDF from V2.10 are still valid for V2.11 without change.

Attention:

If the previous version of the bus operating console is used on a PC with installed 'TMSS' communication service, this service and also BUS_BEDI_E will be disturbed when working with BUS_BEDI_E V2.10, so that the service has to be stopped and restarted after BUS_BEDI_E was finished.

→ Use only the new version 2.11 on PC with 'TMSS' !

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4.4 Extensions at S5KS/S5KE Drivers for 6DS1333-8AB/6DS1318-8AB

From M02.03 following extended functions are released for the S5KS and S5KE drivers when working with the interface modules 6DS1333-8AB and 6DS1318-8AB:

Optimization of processing for data type 2 (S5 floating-point numbers)
New data type 3: byte reversion
New data type 4: S7/IEEE floating-point numbers
New data type 5: character string

4.4.1 Summary of the data types

The table below shows a summary of the data types, and the allowed values for parameters depending on data type and mode for S5KS/S5KE (from version M02.03):

The parameters shown by name are valid for S5KS; for pure receiving telegrams the byte no. within the telegram is given additionally. The contents has to be configured correspondingly in the connected device (e.g. SIMATIC S5, S7).

DAAR or byte 10	**GAGB or byte 5**	**ELNR or byte 6**	**ANZ or byte 7+8** (number of words/ double words)
0 : binary value	GB block no. 0 – 254	0 – 255	ANZ = byte 7+ 8 = 1 – 64 words (16 values / word)
1: fixed-point number (16 bit)	GA block no. 0 – 254	0 – 255	ANZ = byte 7+ 8 = 1 – 64 words (1 value / word)
2: S5 floating-point number (32 bit)	GA block no. 0 – 254	0 – 255	ANZ = 1 – 32 values byte 7 + 8 = 2,4,..64 words (1 value / 2 words)
3: binary value (with byte reverse per word)	GA block no. 0 – 254	0 – 255	ANZ = byte 7 + 8 = 1 – 64 words (16 values / word)
4: S7-/IEEE floating-point number (32 bit)	GA block no. 0 – 254	0 – 255	ANZ = 1 – 32 values byte 7 + 8 = 2,4,..64 words (1 value / 2 words)
5: character string	FC block no. 0 – 254	0 – 255	ANZ = byte 7+ 8 = 1 – 64 words (2 values / word)

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Extended functions and features of the S5KS block

- While the input FSE = 1 is active, a telegram is written to the transmitter buffer during every cycle, if there is enough space in the transmitter buffer.
- Single transmission:
  The input FSE can be reset after the block cycle. Messages on the success of the transmission can sometimes only be shown if the S5KS block operates cyclically.
- Byte reversal for binary value transmission (new data type 3):
  With data type 0 linking to SIMATIC S5 or S7, the bytes of the data words in the DB blocks are reversed compared to the TELEPERM representation. With the selection of data type 3, the bytes of the data are reversed by the S5KS block before transmission and the data have the SIMATIC bit significance in the received data block.
- S7/IEEE floating-point format (new data type 4)
- Character string (new data type 5):
  If a configuration fault (STF = 1) appears with data type DAAR = 5 (FC field) both outputs STGA and STGB are set to zero.

Extended functions and features of the S5KE block

- The receiver block S5KE reads the receiver telegrams and initiates the transfer to the global binary and analog blocks as well as to FC fields.
- The receiver block S5KE also monitors the coupling.
- Per invocation, the block can handle a maximum of 12 telegrams.
  Further details for configuration may be read in the documentation “Instructions for Configuration of Input/Output Modules on the TELEPERM M I/O Bus”, C79000-G8076-C703, file PERPRO_E.pdf on the IBS Tools Disk.
- Byte reversal for binary value transmission: as with S5KS (see above)

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4.4.2 Notes, Restrictions

Note for installing the transmitter block S5KS

In the AS 488/TM all instances of the S5KS block configured with the same BGNR and KNR, have to be installed into the same cycle. The reason for this is that all S5KS blocks per module and channel use a common transmit buffer. If S5KS from different cycles for example access this buffer, transmit data may be deleted or distorted.

Restriction

The new data types 3-5 are only valid for AD telegrams from AS 488/TM to a partner device, and for ED telegrams to or their reply from the partner device.
Telegrams of type AD sent from the partner device to AS 488/TM with data types 3, 4, 5 cannot be processed with the interface modules (6DS1333-8AB, current release 6 and 6DS1318-8AB, release 5).
(In such cases please ask the hotline/development for module release or possible update kits.)

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5 Extended Documentation

5.1 Restart of AS 488/TM with Interface Module TPM 478

With each restart of the AS 488/TM the interface module TPM 478 will be parameterized new. This happens with:

- Power on
- Boot by MRES key switch
- RSOF (by operation or key switch)
- Loading (LA,name; or LA:name;)
- Loading via bus (LAB or LABR)
- LOES.

During this parameterization the SYST.WART configuration is passed to the TPM 478 module, and a restart of the TPM 478 is activated.
Consequently the process image of the TPM 478 is rebuild starting from a zero state. Therefore "0" values are output to the I/O modules as long as the assigned process image is set by RESTART and driver blocks.

Because this function mode is independent from a HW driven restart, the short-time output of "0" values is done also if the so-called ARS jumper on the I/O modules is configured to "hold". Beyond these zero values are output by power failure of triggering the fuses of binary and analog output modules with ARS switch or there racks (expansion units).

Because the "zero" state cannot be assumed as identically with the so-called safe state, the user has to plan a subordinate clearance plane for all security relevant signals. During configuration of the process it has to be guaranteed, that for protection of people and installations a secondary security system exits, independent from the control system.

New restart reaction:

Up from system software version M02.01 restart and configuring of the TPM 478 has been extended to the effect that with RSOF the output of the TPM 478 process image to the I/O modules is enabled not until the first pass of AS cycle 3. With this a bumpless transition without '0' output on the process signal outputs has been made possible for warm restart.

Note:

This modified function has to be enabled explicit by GB.ORPA.262 = 1 !
In the first pass of the AS cycle 3 all wanted starting states within the process image have to be configured. With use of XB blocks AP=1 is absolute necessary.

Caution:

Requirement for this new function is a TPM 478 module issue ≥ 9 resp. a TPM 478-1 from issue 1 !
For the TPM 478 exists an upgrade package (order no. 6DS9 630-8AA).

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6 Limited Operating Performance

No safety-relevant software faults are currently known; the known faults are assigned to fault class 3 and lower.

Caution:

When working on initialization files (*.INI), tabs (09H) should not be used. Spaces (20H) should be used instead. Failure to comply could lead to interpretation errors.

AS 488/TM with TELEPERM M I/Os:

The limitations with respect to use of TM I/Os (module types), all TM modules listed in the "AS388/TM and AS488/TM supplementary system documentation" C79000-G8076-C700 or at catalogue PLT 112 and official notes in "TELEPERM M - aktuell" can be used.

Errors/failures/faults of the I/O buses are not displayed by LEDs on the TPM 478; these can be recognized e.g. by failure signals of the drivers.

The module 6DS1607 operates with compatible functions, but the pulses which have been accumulated in the previous cycle are always output when reading. The dead time is reduced if a faster TPM 478 cycle is configured.

Operation of the coupling modules 6DS1318-8AB and 6DS1333-8AB as well as CP581-TM, as far as compatible to S5Kx driver:
When using the firmware TPM 478, IO part, version 2 (Fixed memory package S79300-G196-A900, 1. position = S79300-G196-A903-2, 2. position = S79300-G196-A904-2), only telegrams with a maximum of 32 data words may be configured. Longer telegrams should be split into two shorter ones. From module version 6 onwards, firmware version 3 is used, which allows a maximum of 64 data words to be configured.

AS 488/TM with PROFIBUS-DP I/Os:

The process image length per slave station via PROFIBUS-DP is limited by the IF964-DP to 122 bytes. It is thus possible to operate up to 7 analog modules with 8 channels each in one slave station.

New modules can only be released for operation on the AS 488/TM by publishing them in the PLT 112 Catalog, or as an addendum to TELEPERM M - *aktuell*.

When configuring ET200 I/O modules using COM ET200M, the value for the internal monitoring time is calculated too low by the tool. The result may be that I/O modules are not recognized (removed from COM PROFIBUS V3.0).
Remedy: Increase the value calculated by COM ET200M by a factor of 2.

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Further information:

The arithmetic accuracy of the AS 488/TM with floating-point numbers is higher than that of the AS 235. There may therefore be small deviations in the last digits of the mantissa in the case of calculated analog values or floating-point constants in TML.

The CD coupling is not implemented in the AS 488/TM.
Any attempt to register a CD coupling from OS or AS 235 will be rejected.
Remedy: When importing structures, CD couplings must be replaced by DI couplings before loading.

Loading a filed structure from AS to AS using the command "LAB,name;" is only possible from an AS 235 with a diskette drive. Saving from AS to AS on diskette using the command "ARB,name;" is only possible on an AS 235 with diskette drive. Use of an AS 488/TM as the central configuring station is not envisaged, i.e. all commands which are not directed to the own AS like for example the LABR and ARBR commands, are not allowed from the AS 488/TM and may lead to malfunctions in both AS.

When using the function "Read RAM" by PROGRAF AS+ from an AS 488/TM, the number of transmit telegrams per cycle in the AS is limited by the parameter settings of FSA,ORPA in the AS 488/TM (A,FSA,ORPA; F; P,26,10;).

Structuring of I/O modules with STRUK-EA via the system bus (CS 275 or PROFIBUS-TM) has not been released for AS 488/TM.

S5KS Blocks:

When projecting S5KS blocks, special care must be taken to ensure that these are always placed in the same cycle for the same module and the same channel. The S5KS blocks use a joint send buffer for each module and channel. If this send buffer is accessed at the same time by two cycle levels (for example, by cycle 2 and 3) with the S5KS blocks, the send data to be transported can occasionally be corrupted or destroyed when it enters the send buffer; the receiver then receives corrupt data.

Time after network is switched on:

On rare occasions it may be the case that, despite the battery memory, the time on the AS 488/TM is reset to 01.01.94 / 00:00:00 when turned on.

Correction (offline):
Start a terminal program (e.g. windows terminal or HyperTerminal) on the IBS terminal PC, which is connected to the serial port COM1.
Settings: 19200 Baud, no parity, 8 data bits, 1 stop bit.
Then call up the BIOS setup (press Q and switch on the CPU).
Set the correct date in the setup menu and save the settings.
After this has been set once, the battery memory will function for the date and the time.

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